

19.3: Data and Analysis

Data Collection (25 points)

Following your detailed protocol, perform all the experiments. Record your observations and take pictures of your key steps in the process. Your observations and images need to be incorporated in your data section and this section should be as detailed as possible as you will use this information to complete your discussion.

Data Processing (25 points)

1. Write the balanced chemical equation for the reaction for sodium carbonate with calcium chloride.
2. Starting with the molecular equation, use your knowledge of dissociation reactions to derive the complete ionic and net ionic equations.
3. Classify the type of reaction that occurs between calcium chloride and sodium carbonate.
4. Calculate the total mass of the reactants.
5. Calculate the mass of all the products collected after the reaction (Hint: the sum of the material from the filter paper + the material left in the beaker)?
6. Starting with the mass of calcium chloride, calculate the expected mass of calcium carbonate and sodium chloride from the reaction.
7. Starting with the mass of sodium carbonate, calculate the expected mass of calcium carbonate and sodium chloride from the reaction.
8. Calculate the percent yield of calcium carbonate.
9. Calculate the percent yield of sodium chloride.
10. Fill in the following table using the data and observations from your experiment:

Assumptions made	Testing the assumption	If assumptions are wrong ...
The distilled water is pure	Evaporate it and check for residue	
Only Na_2CO_3 is present in a container labelled Na_2CO_3		

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